

### **AMENDMENTS TO THE DRAWINGS**

The attached sheets of drawings comprise formal drawings to be substituted for the informal drawings filed with the application. No amendments are made to the drawings in this submission.

Attachment: Replacement Sheets

## REMARKS

### I. Summary of the Examiner's Action

#### A. Drawing Objections

As set forth in paragraph 1 of the November 15 Office Action, the Examiner objected to the drawings as filed due to their informal nature and required new corrected drawings be filed that comply with 37 CFR 1.121(d).

#### B. Specification Objections

As set forth in paragraph 2 of the November 15 Office Action, the Examiner objected to the specification because of the length of the abstract. The Examiner required correction of the abstract in accordance with MPEP § 608.01(b).

#### C. Claim Rejections

As set forth in paragraph 5 of the November 15 Office Action, claims 1 – 10, 14, 16 – 25, 29 and 31 – 35 stand rejected under 35 U.S.C. § 102(e) as being anticipated by United States Patent Application Publication No. US 2004/0219891 to Hadjichristos (hereinafter “Hadjichristos” or “the Hadjichristos application”).

As set forth in paragraph 8 of the November 15 Office Action, claims 11 - 13 and 26 - 28 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Hadjichristos application.

These rejections are respectfully disagreed with, and are traversed below.

D. Claim Objections and Allowable Subject Matter

As set forth at paragraph 9 of the November 15 Office Action, the Examiner objected to claims 15 and 30 as being dependent upon a rejected base claim, but indicated that the claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

II. Drawing and Specification Objections

Applicants have submitted formal drawings and having corrected the abstract, thereby obviating the objections of the Examiner to these elements of the application.

III. Applicant's Response – Claim Rejections

A. Rejection of Claims 1 – 10, 14, 16 – 25, 29  
and 31 -35 under 35 U.S.C. § 102(e)

Claim 1 recites the following subject matter (emphasis added):

1. A radio frequency (RF) transceiver comprising a transmitter (TX) and a receiver (RX) for coupling to an antenna, said TX having a polar architecture that comprises at least one programmable delay element in at least one of an amplitude modulation (AM) path and a phase modulation (PM) path, further comprising an RF connection between an output of said TX and an input of said RX, and a controller that is responsive to an output of said RX when receiving a signal through said RF connection for determining at least one delay value for use in programming said at least one programmable delay element.

Applicants respectfully submit that it is not seen where the Hadjichristos application either describes or suggests the emphasized subject matter of claim 1. In particular, Applicants have recognized that seeking to correct for the delay mismatch between signals transmitted in amplitude modulation (AM) and phase modulation (PM) paths can result in needless hardware complexity. Accordingly, Applicants propose using pre-existing RX circuitry to correct for the delay mismatch as described in the application at page 3, lines 5 – 15 and page 6, lines 4 – 9 (emphasis added):

“The inventors have realized that it would be most advantageous to measure the actual result of the delay mismatch when using a transmitter that represents symbols using both phase and amplitude information. The inventors have further realized that it would not be advantageous to provide additional circuitry in the mobile station to perform the delay result measurement function, e.g., circuitry required to down convert the TX RF signal to baseband (BB) so that delay matching may be accomplished.”

“In accordance with an aspect of this invention, the transmitted signal is looped back to the mobile station receiver, and the mobile station receiver is used to detect the result of the delay mismatch in the mobile station transmitter so that the correct delay compensation can be selected and applied to optimize both the ACLR and the EVM performance of the mobile station.”

\* \* \*

“As was discussed above, the existence of a delay mismatch in AM and PM signal chains of the ER transmitter can degrade both the ACLR and the EVM performance. In accordance with an aspect of this invention, the effects of the delay mismatch are detected using the receiver after the TX signal is looped back to the receiver. In this manner the

effects of the delay mismatch are detectable using existing RX measurement functions, and additional circuitry, cost and complexity are avoided.”

The Hadjichristos application shows no appreciation for such a simple implementation. Rather, as depicted in FIG. 5 and described in paragraph [0058] and following Hadjichristo's delay controller 80 is depicted as being part of the transmitter 30. Accordingly, in contrast to Applicants' invention as claimed, Hadjichristos adds additional circuits to a transceiver, thereby needlessly increasing the complexity and expense of the device.

In view of the foregoing, Applicants respectfully request that the rejection of claim 1 be withdrawn. Applicants also respectfully submit that independent claims 16 and 31 are allowable both for reasons similar to claim 1 and for reasons attributable to their independently-recited features. Applicants further submit that dependent claims 2 – 10, 14, 17 – 25, 29 and 34 – 35 are similarly allowable both as depending from allowable base claims and for reasons attributable to their independently-recited features.

B. Rejection of Claims 11 – 13 and 26 – 28 under 35 U.S.C. § 103(a)

Applicants respectfully submit that it is not seen why the suggestion to use a signal quality measurement like BER to adjust delay results from the combination of Hadjichristos with unspecified prior art. At best, Hadjichristos only recognized that a single *signal power* measurement – ACLR – could be used. Applicants not only

contributed a different and simpler implementation, but also recognized that another signal power measurement – OCP – could be used and that a *signal quality* measurement – BER – could be used as well to adjust delay. In view of the relatively narrow contribution of Hadjichristos, it is the epitome of hindsight to credit Applicants' invention to unspecified prior art, especially in the absence of a single citation buttressing Examiner's contention. Without so stating, Examiner has taken official notice of a fact. Applicants argue that such notice is improper in a field as esoteric as communication theory where the following proscription from MPEP 2144.03(A) should apply:

It would not be appropriate for the examiner to take official notice of facts without citing a prior art reference where the facts asserted to be well known are not capable of instant and unquestionable demonstration as being well-known. For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art must always be supported by citation to some reference work recognized as standard in the pertinent art *In re Ahlert*, 424 F.2d at 1091, 165 USPQ at 420-21.

If Examiner cannot find a reference to support his contentions regarding the obviousness of these claims, Applicants respectfully request that the rejection of claims 11 – 13 and 26 – 28 be withdrawn.

IV. Conclusion

Applicants submit that in light of the foregoing remarks the application is now in condition for allowance. Applicants therefore respectfully request that the outstanding rejections be withdrawn and that the case be passed to issuance.

Respectfully submitted,

March 15, 2007  
Date

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